CHAPTER 11-5 - COST ANALYSIS METHODOLOGY - DIRECT VERSUS CONTRACT INPATIENT CARE

11-5.1 PURPOSE

The Office of Environmental Health and Engineering (OEHE), Indian Health Service (IHS), requires a cost analysis to be included in the Program Justification Document (PJD) for a new or replacement hospital. No cost analysis is necessary for a proposed health center.

The purpose of the cost analysis is to determine whether it is more or less expensive to provide inpatient services directly in an IHS facility or to contract with non-IHS providers for inpatient care. This chapter provides a uniform basis and standard format for the cost analysis for a replacement hospital. Cost effectiveness is only one of the factors to be considered in deciding whether inpatient care should be provided directly or through contract health services (CHS). (NOTE: The term "direct" is used in this chapter to indicate when the IHS or a tribe provides inpatient care in an IHS or tribal facility.)

11-5.2 INTRODUCTION

A. The methodology contained in this chapter analyzes the cost of providing inpatient care directly versus through contract health services by comparing all appropriate costs for both a hospital and a health center serving the same workload. This includes operational costs, construction and equipment costs, contract hospital costs, contract physician costs, lost Medicare revenue, Medicare admission co-payment costs, costs of purchasing emergency care, and quarters construction costs.

B. The marginal, or differential, cost of providing inpatient care directly will be determined. It will reflect space costs as well as personnel and other operational costs. The marginal cost is used because the IHS will be providing ambulatory and community health services at the location whether or not inpatient care is provided directly. It will be compared to the cost of purchasing that same inpatient care from other sources. Both hospital and physician costs must be included.

C. Third party reimbursements will be affected if inpatient care is discontinued at an existing IHS facility and provided by contract. Facility revenues will fall, but CHS costs will be offset by a similar amount, as the contract provider is obliged to bill third

party resources first, IHS being the payor of last resort. However, Medicare outpatient reimbursements will be lost to the IHS at that facility and any satellite health centers because the Indian Health Care Improvement Act authorizes IHS to collect Medicare only at facilities which provide inpatient care. Lost outpatient Medicare revenues will be treated as an expense for contracting for inpatient care.

D. A programmatic determination must be made whether emergency room (ER) and short stay nursing services will be provided at a replacement health center (IHS alternative rural hospital or "ambulatory hospital") under the option of not providing traditional inpatient care directly. This decision will affect direct and contract costs. The following criteria are used to decide if a 24-hour ER and short stay nursing unit will be programmed for a health center:

(1) Projected primary care provider visits (PCPVs) are greater than 25,000 annually, and

(2) The distance from an alternate hospital is greater than 90 kilometers.

The cost analysis will be more complicated with the ER/short stay nursing option, but it will follow the same methodology elaborated in this document. The ER/short stay nursing option will not be discussed further in this document.

E. A Program Justification Document for Quarters (PJDQ) must be submitted with the PJD, as a Tab, if there is a need for new quarters units to accommodate an increase in staff associated with a new or replacement hospital.

The quarters impact on the PJD cost analysis will be based on the new quarters needs of a hospital minus that of a health center. Planning, design, site work, utilities, landscaping, construction, appliances, special items, tribal taxes, Public Law (P.L.) 93-638 expenses, etc. must be included in the new quarters cost analysis. The justification and number of new quarters units for the hospital are specified in the PJDQ.

The new quarters need for a health center is determined according to the procedure specified in this methodology. (Note: this procedure is appropriate only for the purposes of this methodology. If a new quarters need is identified for a new or replacement health center, it shall be determined by using the PJDQ methodology.) In this methodology, the following definitions are used:

- **Total Quarters Need:** Number of units of quarters required to house non-local staff.

- **New Quarters Need:** Quarters which will be constructed to accommodate an increase in non-local staff or to replace

existing substandard quarters units which would be uneconomical to renovate.

- **Suitable Local Housing:** Available local private housing which is suitable for renting or ownership by non-local staff. This will be determined by a Housing Verification Survey conducted by the appropriate Engineering Services (ES) office, OEHE.

F. Several factors which affect the cost of providing inpatient care either directly or through contract will not be included in the cost analysis because they cannot be determined readily. It is assumed that the costs not included in the analysis will offset each other.

(1) Not considering some factors may underestimate the actual cost of contracting for inpatient care. Such factors include:

- Transportation costs for those facilities located a substantial distance from the contract hospital.
- Inflation of medical care costs, which in recent years has been higher than increases in IHS funding, may affect the long term differences between direct and contract costs.
- Hidden direct costs, such as medical malpractice coverage and replacement of inpatient medical equipment.

(2) Conversely, not considering other factors may overestimate the cost of contracting for inpatient care:

- Possible overutilization of direct inpatient care is not accounted for. All current admissions are assumed to be appropriate and, therefore, are used to determine CHS costs for contracting inpatient care.
- The cost of obtaining funds for construction of inpatient care facilities.

G. Inflation is not included in this analysis; current year costs for construction, staffing, and contracting are used throughout to estimate costs of providing inpatient care directly or via contract.

H. The remainder of this document is divided into "Methodology" and "Procedure" sections. "**Methodology**" discusses the various cost factors used in the cost analysis and provides explanatory material. "**Procedure**" explains where to obtain the needed information and how to use it. **Exhibit 1**, “Sample Cost Analysis Worksheet,” at the end of this chapter provides an example showing a step-by-step presentation of the required material in a standard

format. This is intended to be used as a guide for the preparer of the cost analysis.

11-5.3 METHODOLOGY

A. Project inpatient and outpatient workloads ten years using IHS workload forecasting guidelines.

B. Determine annual marginal **costs of direct acute inpatient care** by developing staff and space costs for a hospital and subtracting the cost for a health center, sized and staffed to meet the ambulatory and community health needs of the service population as follows:

(1) **Operational Costs**: Determine operational costs by first completing a Resource Requirements Methodology Needs Assessment (RRMNA) for the facility both with and without inpatient services to calculate full time equivalent (FTE) staffing requirements. Since the IHS has received only 85% of staffing needs in recent years, multiply the FTEs by 0.85. Then determine salary costs both with and without inpatient services by using the current fiscal year average salary cost by category furnished by the Budget Formulation Branch, Office of Administration and Management (OAM), IHS Headquarters. Do not use salary costs from the RRMNA. Salary costs are multiplied by 1.3 to obtain total operating costs; the additional amount (30%) is for non-salary costs such as utilities, travel, and supplies. This is the standard factor used by the IHS in determining the operating budget request for new or replacement facilities.

(2) **Space and Equipment Costs**: Determine space requirements for a facility providing ambulatory and community health services with and without inpatient care, using the Health Facilities Planning Manual, Volume 1. In addition to the patient care areas, there are space requirements for dietary, diagnostic services, housekeeping, supply, administration, pharmacy, etc., to support inpatient care. Once all space requirements are determined, the appropriate ES office will apply the IHS Budget Cost Estimating System to determine construction and group I, II, and III equipment costs for both facilities (including P.L. 93-638 tribal fees, if applicable). For cost comparison purposes the estimate will inflate costs only to the date of the estimate; therefore, the assumed mid-point of construction is the date of the estimate. Depreciate these construction costs, using the straight line method, over 30 years to get the average annual cost.

(3) **Quarters Costs**: Determine the hospital's new quarters need by completing a Phase II submittal based on the Technical Handbook for Health Facilities, Volume II, Part 12, Chapter

12.2, "Quarters Construction Priority System" (originally Volume II, Part 7, Chapter 3.) The availability of local private housing must be verified by the appropriate ES. The Area should request a housing verification survey when the RRMNA is near finalization. Determine the health center's new quarters need by applying the hospital's ratio of total quarters need to total staff to the health center's total staff. The quarters need is reduced by the number of existing quarters units and by the number of suitable local housing units to obtain the total quarters required. (See **PROCEDURE**, C.(12) below for detailed formulas.)

IHS quarters are intended for non-local staff. By definition, those individuals who at the time of employment reside more than 70 road kilometers from the health facility are considered non-local.

Costs will be depreciated over 30 years to obtain the average annual cost. Costs for maintenance or renovation of quarters will not be included in the analysis. It is assumed that the service unit will manage its quarters efficiently and that collected rents will be adequate to maintain and renovate the quarters when necessary.

C. Determine annual **CHS costs** for purchasing inpatient care rather than providing it directly. This is a determination of the costs of purchasing care for those patients who would be provided care directly at the proposed IHS hospital. **It does not include costs for patients who will be provided care through CHS regardless of whether inpatient care is provided directly**, e.g., tertiary care and other inpatient and emergency services not available at the IHS hospital.

CHS costs include hospital costs and may include physician costs if IHS physicians are unable to provide this care. Assume for this cost analysis that IHS physicians will provide inpatient care if a contract hospital is within 16 kilometers of the proposed facility and/or if the physicians usually live in the community where the contract hospital is located.

Determine the following cost elements:

(1) **CHS Hospital Costs**:

a. Convert International Classification of Disease-9 (ICD-9) Clinical Modification (CM) codes for the IHS direct discharges from the last year of the three-year base period to diagnosis-related group (DRG) codes.

b. The number of discharges for each DRG is multiplied by the DRG weight times the base plus pass through rates (obtainable from the Fiscal Intermediary) for the contract

hospital where the majority of inpatient care will be purchased.

If there is no DRG related contract in place at the contract hospital to estimate hospital costs, use billed charges for the same diagnosis categories of inpatient care cases provided directly at the IHS hospital. In a few locations, the contract hospital will not have sufficient bed capacity to accept all of the IHS workload. In this case, for cost comparison purposes, assume that the contract hospital would expand its bed capacity to meet this demand.

(2) **Physician Costs**: Physician costs are not tightly linked to episodes of inpatient care in the databases of health care payers, i.e., insurance companies, the States, and HCFA. Therefore, it is not possible at this time to determine the cost of purchasing physician services for acute inpatient care with the same precision as hospital costs.

The IHS Fiscal Intermediary (FI) has developed a methodology to estimate contract inpatient physician costs. When physician inpatient services are to be purchased, determine physician costs by obtaining from the FI the average Service Unit, if possible, or Area-wide physician costs for those DRGs currently being provided at the IHS facility. For those Tribes which do not utilize the IHS FI, use Area-wide average contract physician costs.

(3) **Lost Medicare Outpatient Revenues**: The average Medicare (not Medicaid) revenues for outpatient care for the three-year base period is considered a cost of contracting inpatient care. If a hospital has one or more satellite health centers, also include the Medicare revenues which they generate.

(4) **Medicare Admission Costs**: An additional IHS cost must be included for cost comparison purposes, the Medicare per admission co-payment of approximately $700.

(5) **Emergency/Urgent Care Costs**: For health centers, add all costs associated with the projected emergency room workload to the cost of contracting for inpatient care. (The IHS uses 12 percent of total projected PCPVs to estimate the number of PCPVs provided in the emergency room; however, most of these are not emergency cases). For this cost analysis, six percent of the projected PCPVs are assumed to be provided in a contract hospital emergency room. This number of PCPVs will be subtracted from the projected outpatient workload at a health center.

The CHS costs determined above must be adjusted to reflect projected workload ten years in the future.

11-5.4 PROCEDURE

A. In general, the PJD (and draft Program of Requirements (POR)) should be ready in an approvable draft form **before** the cost analysis is completed. This will allow for agreement on the proposed workloads, programs, staffing, and space for a new/replacement hospital, so that the cost analysis need not be redone if the initial PJD and POR are revised substantially.

B. Determine hospital costs.

(1) Complete PJD Workload Projection forms 1 and 2 (and 3, 4,and 5 if applicable), projecting inpatient and outpatient workloads ten years.

(2) Using information from "(1)" above and "(3)" below, determine staffing needs using the current authorized version of the RRMNA, then add any approved non-RRM staffing. Obtain the current FY average FTE salary and benefits by sub/sub activity from the Budget Formulation Branch, OAM, Headquarters. Multiply the dollar amounts per FTE by the number of FTEs in each sub/sub activity and total. Multiply these FTE costs by 0.85 and then by 1.3 to determine total operational costs for the proposed hospital.

G**[FTE X average salary] X 0.85 X 1.3 = operational costs**

(3) Using workload and staffing information from "(1)" and "(2)" above, identify the space requirements for the proposed hospital from the POR or by using the computerized HFPM, Volume I.

(4) Obtain a cost estimate for the hospital from the appropriate ES office; they will utilize the IHS Budget Cost Estimating System. Divide construction costs by 30 (years) to determine the average annual space (and initial equipment) cost.

construction cost ÷ 30 = annual space cost

(5) Determine the new quarters need for a hospital from the PJDQ, Table V, Item (C). (Also found in Exhibit 5 of the Phase II data sheet.)

Obtain a cost estimate from ES for the new quarters need for a hospital. Divide construction costs by 30 (years) to determine the average annual quarters cost.

construction cost ÷ 30 = annual quarters cost

(6) Add the staffing, space, and quarters costs from "(2)", "(4)", and "(5)" to obtain the total annual cost to provide

ambulatory, community health, and inpatient care at the proposed hospital.

C. Determine health center costs.

(1) Complete PJD Workload Projection forms 1 and 2 (and 3, 4,and 5 if applicable), projecting inpatient and outpatient workloads 10 years.

(2) Subtract 6 percent of the projected PCPVs from the outpatient workload determined in "(1)" to account for the contract ER visits; this is the adjusted projected PCPVs.

(3) Determine the increased number of CHS authorizations required at a health center by multiplying the projected admissions (from "(1)") times 4 CHS authorizations per admission; add this to 6 percent of the projected PCPVs (assume one CHS authorization per PCPV). The number of authorizations affects CHS staffing (see "(4)" below).

E**([projected admissions X 4] + [projected PCPVs X 0.06 X 1]) = increase in # CHS authorizations for a health center**

(4) Using information from "(1)", "(2)",and "(3)" above and "(5)" below, determine staffing needs using the RRMNA, then add any approved non-RRM staffing. If IHS physicians are to provide inpatient (and possibly ER) medical services at the contract hospital, physician staffing will need to be increased to meet this workload. Obtain current FY average FTE salary and benefits by sub/sub activity from the Budget Formulation Branch, Headquarters. Multiply the dollar amounts per FTE by the number of FTE in each sub/sub activity and total. Multiply these FTE costs by 0.85 and then by 1.3 to determine total operational costs for a health center.

G**[FTE X average salary] X 0.85 X 1.3 = operational costs**

(5) Using information from "(1)", "(2)", and "(4)" above, determine space requirements for the health center using the computerized Health Facilities Planning Manual, Volume I.

(6) Obtain a cost estimate for the health center from the appropriate ES office; they will utilize the IHS Budget Cost Estimating System. Divide construction costs by 30 (years) to determine the average annual space (and initial equipment) cost.

construction cost ÷ 30 = annual space cost

(7) Obtain from the IHS Division of Program Statistics, Headquarters-East, IHS direct inpatient hospital discharges and days arranged by DRG code for the last fiscal year of the three year base period. Determine which local or regional (contract) hospital will provide inpatient care if IHS does not provide it directly. If the IHS has a DRG type contract with the contract hospital, multiply the number of direct cases in each DRG code by its DRG weight, sum, and then multiply by the base plus pass through rates (acquired from the FI), thus obtaining the hospital costs for contracting inpatient care. (A program to do this may be obtained from the Office of Health Program Research and Development (OHPRD), Tucson, (602) 295-2482.) Multiply the result by the ratio of admissions projected ten years to admissions for the last year of the three-year base period to obtain the costs of contracting for the projected admissions.

E[#disch per DRG X DRG weight] x (base + pass through) = hospital costs (for admissions from the last year of the three-year base period)

projected admissions ÷ base year admissions x hospital costs = projected admissions hospital costs

If a billed charges type contract is in place with the contract hospital, use average billed charges (FI Report, IHS CRP) for the same diagnostic categories of inpatient cases provided at the IHS hospital to estimate CHS hospital costs. Adjust for projected admissions as noted above.

(8) If IHS physicians will be providing inpatient care at the contract hospital, physician costs are included under operational costs in "(4)", above. If physician services are to be purchased, obtain the following report from the IHS FI: "Summary of Inpatient Physician Utilization" - IHSCMS16. If available, service unit specific information should be used for this report; otherwise, use Area data. The report may contain all or part of the following codes.

TYPE OF SERVICE	CODE ON REPORT
Anesthesia	2X
Assistant Surgeon	2Y
Chemotherapy	Q
Consultation	9
Diagnostic Radiology	5
Dialysis	PP
Drugs	K
Emergency Care	A
Laboratory	8
Laboratory, Prof Comp.	P5
Maternity	3M

Medical Diagnostic	65
Medical Service	6
Other Professional	00
Physical Therapy	D
Psychiatric Care	C
Radiation Therapy	E
Surgery	2

Use the following formulas to estimate the average physician cost per admission for the following broad categories of inpatient service.

Maternity: (3M + P5)

C-Section: (3M + 2Y + 2X + P5)

Newborn: (6 + P5)

Surgery: (2 + 2Y + 2X + P5 + 00)

Medical: (6 + 65 + P5 + 00)

Psych/Substance Abuse: (C + P5 + 00)

Add the CHS payment per encounter from the report for each type of service included in the six inpatient service categories; for example, the average physician cost for maternity admissions is estimated by adding the CHS payment per encounter for 3M (maternity) plus P5 (laboratory, professional compensation).

Add the number of direct IHS inpatient hospital discharges per DRG as determined in step "(7)" above to obtain the number of admissions in each of these general admission categories - Maternity, Newborn, Surgical, Medical, and Psychiatric and Substance Abuse. Also determine the number of c-sections as a subcategory in Maternity.

ADMISSION CATEGORY	**DRG CODES**		
Maternity	370-384		
Newborn	385-391		
Surgical	001-008	036-042	049-063
	075-077	103-120	146-171

	191-201	209-234	257-270
	285-293	302-315	334-345
	353-365	392-394	400-402
	406-408	415	439-443
	458-459	461	468
	471-472		

Medical	009-035	043-048	064-074
	078-102	121-145	172-190
	202-208	235-256	271-284
	294-301	316-333	346-352
	366-369	384	395-399
	403-405	409-414	416-423
	444-457	460	462-467
	473-494		
Psych/S.A.	424-438		

To determine the cost of purchasing inpatient physician services, multiply the average physician costs for each of the five general admission categories by the number of admissions for each category, and total. Then, multiply this amount by the ratio of admissions projected ten years to admissions from the last year of the three year base period.

E[average physician cost per admission category x # admissions per category] = physician costs (for admissions from last year of base period)

(projected admissions ÷ base year admissions) x physician costs = projected admissions' physician costs

(9) Obtain Medicare outpatient collections for the facility and any satellite health centers for the most recent three FYs using report PMED 710, obtained from the IHS Data Center. Multiply the three-year average Medicare outpatient collections by the ratio of adjusted ten year projected PCPVs to PCPVs from the average of the three-year base (direct to existing) period.

average Medicare outpt collections x adjusted projected PCPVs ÷ base year PCPVs = projected lost Medicare outpatient revenue

(10) Multiply the average number of IHS direct Medicare admissions for the past three FYs, using report PMED 710, by $700. Multiply this amount by the ratio of ten year

projected admissions to admissions from the last year of the three-year base period.

(average direct Medicare admissions X $700) x (projected admissions ÷ base year admissions) = Medicare admission co-payment costs

(11) Determine the cost of purchasing emergency/urgent care services for a health center. Obtain report 25-2Q from the FI, requesting all ER CHS claims for the most recent FY sorted by the emergency room providers (hospitals and physician providers) which the facility patient population use. Take the CHS costs from the most frequently used high volume providers and divide by the number of claims to determine the average cost per ER visit. Multiply this average ER charge (hospital and physician) by six percent of the projected PCPVs.

ER CHS costs for high volume providers ÷ # CHS cases = average ER visit cost

average ER visit cost x 6% of projected PCPVs = cost of purchasing ER care

(12) Determine the new quarters need for a health center. Obtain total quarters need for a hospital from PJDQ, Table V, Item (C). Obtain total staffing for hospital from PJDQ, Table II-STAFFING ROSTER. Divide hospital total quarters need by hospital total staffing and multiply result by health center total staffing to obtain health center total quarters need.

(hospital total quarters need ÷ hospital total staffing) x health center total staffing = health center total quarters

From the health center total quarters need subtract existing quarters and suitable local housing (obtained from ES Housing Verification Survey).

health center total quarters need - (existing quarters + suitable local housing) = health center new quarters need

Obtain a cost estimate for new quarters need for a health center from ES. Divide construction costs by 30 (years) to determine the average annual quarters cost.

construction cost ÷ 30 = annual quarters cost

(13) Add the staffing and space costs from "(4)", "(6)", "(7)", "(8)", "(9)", "(10)", "(11)" and "(12)" to obtain the total annual cost to provide ambulatory and community health services at a health center and to purchase inpatient services.

11-5.5 SUMMARY

A. Calculate the annual costs of constructing and operating an IHS hospital, including ambulatory and community health services as well as direct acute inpatient care, by adding the following:

(1) Operational (personnel and non-personnel) costs
(2) Annual average initial construction and equipment costs
(3) Annual average quarters construction cost

B. Determine the annual costs of constructing and operating an IHS health center, and providing acute inpatient care via contract, by adding the following annual costs:

(1) Operational (personnel and non-personnel) costs
(2) Annual average initial construction and equipment costs
(3) CHS hospital costs
(4) CHS physician costs
(5) Lost Medicare outpatient revenues
(6) Medicare admission co-payment costs
(7) CHS emergency/urgent care costs
(8) Annual average quarters construction cost

C. Cost Comparison: Subtract the cost of building and operating a hospital from the cost of a health center where inpatient and emergency care is purchased. This difference shows whether it is more costly to provide inpatient services directly or by contract.

EXHIBIT 1 - SAMPLE COST ANALYSIS WORKSHEET

METHODOLOGY FOR COMPARING COSTS OF ACUTE INPATIENT CARE
DIRECTLY OR THROUGH CONTRACT

HOSPITAL COSTS

OPERATIONAL COST		Line #
RRM Staffing (FTEs) (from current authorized RRMNA)	191	*1*
Approved non--RRM Staffing (FTEs)	NA	*2*
Total Staffing (FTEs) Compile by sub/sub activity	191	*3*
Current FY Average FTE Salary & Benefits by sub/sub activity (obtain from Budget Formulation Branch, OAM)		
Sum of [all FTEs x Average FTE Salaries] x 0.85 by sub/sub activity	$6,621,909	*4*
Non-staff Operational Costs = Line 4 x 0.3	$1,986,573	*5*
Total Operational Costs = Line 4 + Line 5	$8,608,482	*6*
CONSTRUCTION & EQUIPMENT COST		
Cost Estimate for Construction and Equipment (obtain from Engineering Services-Dallas or Seattle. Use computerized HFPM to get space requirements based on workload and staffing information.)	$33,736,000	*7*
÷ 30 = Annual Construction and Equipment Cost	$1,124,533	*8*
QUARTERS CONSTRUCTION COST		
Number of new quarters needed for hospital	42	*9*
Cost Estimate for New Quarters (obtain from Engineering Services-Dallas or Seattle)	$7,939,000	*10*
÷ 30 = Annual Quarters Construction Cost	$264,633	*11*
TOTAL ANNUAL COST FOR HOSPITAL (add lines 6 + 8 + 11)	$9,997,648	*12*

HEALTH CENTER COSTS

OPERATIONAL COST

Project inpatient and outpatient workloads 10 years (use PJD Workload Projection forms 1 and 2 --also 3, 4, and 5, if applicable)	[Attach form]	*13*
Projected PCPVs (from outpatient workload, line 13)	22,654	*14*
Subtract 6% from line 14 = adjusted projected PCPVs (to account for contract ER visits)	21,295	*15*
Projected Admissions (from inpatient workload, line 13)	546	*16*
Sum of [projected admissions x 4]	2,184	*17*
+ [projected PCPVs X 0.06 x 1]	1,359	*18*
= increase in # CHS authorizations for health center	3,543	*19*
RRM Staffing (FTEs) (from current authorized RRMNA)	120	*20*
Approved non-RRM Staffing (FTEs) if any	NA	*21*
IHS Physician Inpatient staffing at Contract Hospital	Yes	*22*
Total Staffing (FTEs) Compile by sub/sub activity	120	*23*
Current FY Average FTE Salary & Benefits by sub/sub activity (obtain from Budget Formulation Branch, OAM)		
Sum of [all FTEs x Average FTE Salaries] x 0.85 by sub/sub activity	$4,121,728	*24*
Non-staff Operational Costs = Line 24 x 0.3	$1,281,518	*25*
Total Operational Costs = Add Lines 24 + 25	$5,553,246	*26*

CONSTRUCTION & EQUIPMENT COST

Cost Estimate for Construction and Equipment (obtain from Engineering Services-Dallas or Seattle. Use computerized HFPM to get space requirements based on workload and staffing information.)	$15,139,000	*27*
÷ 30 = Annual Construction and Equipment Cost	$504,633	*28*

PROJECTED CONTRACT HOSPITAL COSTS

IHS direct inpatient hospital discharges (obtain from IHS Division of Program Statistics; arranged by DRG code for last fiscal year of 3-yr base period)	[Attach form]	*29*

Determine which hospital will provide contract inpatient care

Does IHS have DRG type contract with this hospital?

If **Yes**, see Line 30.
If **No**, and a billed charges type contract is in place, use average billed charges (FI Report, IHS CRP) for the same diagnostic categories of inpatient cases provided at the IHS hospital to estimate CHS hospital costs. Adjust for projected admissions per Line 33.

Sum of [discharges per DRG x DRG weight]	NA	*30*
x [base + pass-through rates] (obtain from Fiscal Intermediary (FI))	$ NA	*31*
= contract hospital costs	$ 642	*32*
x [10 yr projected admissions ÷ base yr admissions]	$ 1,912	*33*
= Projected admissions hospital costs	$1,228,288	*34*

PROJECTED CONTRACT PHYSICIAN COSTS

If physician services are to be purchased, obtain "Summary of Inpatient Physician Utilization" report (obtain from IHS FI; service unit specific information should be used if available; otherwise, use Area data. If IHS physicians will provide inpatient care at the contract hospital, costs are included in Line 26.)

Sum of [average physician cost per admission category (from above report, using 6 inpatient service categories) **x number of admissions per category]** (from number of discharges per DRG, per Line 30)		
= Physician costs (for admissions from last year of base period)	$ NA	*35*
x [10 yr. projected admissions ÷ base yr admissions]	NA	*36*
= Projected admissions physician costs	$ NA	*37*

LOST MEDICARE REVENUE

Obtain Report PMED 710, Medicare Outpatient Collections (obtain from IHS Data Center; include most recent 3 fiscal years; include facility and any satellite health centers.)

Average Medicare outpatient collections	$ 58,582	*38*
x [adjusted projected PCPVs ÷ 3-yr base PCPVs]	1.29978	*39*
= Projected lost Medicare outpatient revenue	$ 76,145	*40*

MEDICARE ADMISSION CO-PAYMENT COSTS

Average IHS direct Medicare admissions (obtain from Report PMED 710)	127	*41*
x $700	$ 88,667	*42*
x [10 yr projected admissions ÷ base yr admissions] (from last year of 3-year base period)	1.112016	*43*
= Projected Medicare admission co-payment costs	$ 98,599	*44*

COST OF PURCHASING EMERGENCY CARE

Obtain Report 25-2Q from the FI (Request all ER CHS claims for the most recent fiscal year,

sorted by ER providers (hospitals and physician providers) which the facility patient population uses. Determine the most frequently used high volume providers.)

ER CHS costs for high volume providers	$ 59,438	*45*
÷ Number of CHS claims	141	*46*
= Average ER visit cost (hospital + physician)	$ 422	*47*
x 6% of projected PCPVs	1,359	*48*
= Cost of purchasing ER care	$ 572,982	*49*

QUARTERS CONSTRUCTION COST

Hospital total quarters need (obtain from PJDQ, Table V - DETERMINATION OF NEW GOVERNMENT QUARTERS UNITS REQUIRED, Item (C). Also indicated on Exhibit 5 of the Phase II data sheet)	42	*50*
Hospital total staffing (obtain from PJDQ, Table II -STAFFING ROSTER. Also indicated on Exhibit 5 of the Phase II data sheet)	191	*51*
Total staffing for health center (from health center RRMNA)	120	*52*
x [line 50 ÷ line 51]	0.22	*53*
= Total quarters need for health center	27	*54*
Number of existing quarters at health center	2	*55*
Suitable local housing units available (obtain from ES Housing Verification Survey)	2	*56*
Subtract line 55 and line 56 from line 54		
= New quarters need for health center	23	*57*
Cost estimate for new quarters needs of health center (obtain from Engineering Services)	$4,385,000	*58*
÷ 30 = Annual quarters construction cost	$ 146,167	*59*

TOTAL ANNUAL COST FOR HEALTH CENTER PLUS PURCHASED INPATIENT SERVICES (add lines 26 + 28 + 34 + 37 + 40 + 44 + 49 + 59)	$8,180,060	*60*

COST COMPARISON SUMMARY

Comparison of operational and construction costs for a hospital versus a health center with contracted inpatient care:

(All costs are in current-year dollars)

	HOSPITAL	**HEALTH CENTER**
CHS Hospital Costs (line 34)	-0-	$ 1,228,288
Medicare Co-payment (line 44)	-0-	98,599
CHS Emergency Room (line 49)	-0-	572,982
SUBTOTAL: Additional CHS Required	-0-	$ 1,899,869
Staff and Operations (lines 6/26)	$ 8,608,482	$ 5,553,246
Lost Medicare Revenue (line 40)	-0-	76,145
SUBTOTAL: Annual Operational Cost	$ 8,608,482	$ 7,529,260
Facility Construction (lines 7/27)	$33,736,000	$15,139,000
Quarters Construction (lines 10/58)	7,939,000	4,385,000
SUBTOTAL: Total Construction Cost	$41,675,000	$19,524,000
Annualized Construction Cost (÷ 30 yrs)	1,389,166	650,800
TOTAL ANNUAL COST	**$ 9,997,648**	**$ 8,180,060**
ANNUAL COST DIFFERENTIAL	**$ 1,817,588**	

This is the **additional** annual cost of building and operating a hospital over a health center **after additional CHS costs for contracted inpatient and emergency care are included**.